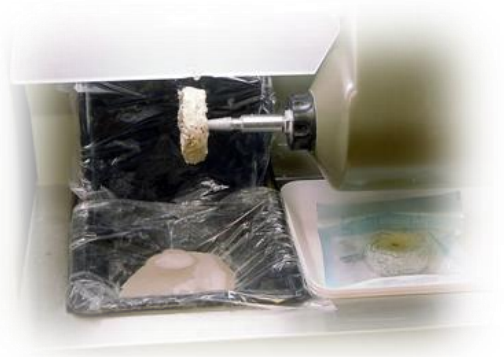
Laboratory and Radiography

Lathe Safety and Infection Control (6/11)

Question: Are there any special safety or infection-control precautions we should follow when using a lathe?



Answer: The opportunity exists for injury and the spread of infectious organisms when operating a dental lathe from the rotary action of the wheels, stones, and bands. Therefore using protective eyewear, a safety Plexiglas shield on the front of the lathe, and an adequate ventilation system is recommended. The use of a mask is highly recommended as well. If gloves are worn when operating the lathe (or any rotary equipment), extreme caution is indicated to avoid getting the gloves caught in the lathe.

Pumice used to polish appliances/prostheses is particularly susceptible to contamination with microorganisms because of the warm wet environment. To decrease the potential spread of microorganisms, pumice can be mixed with clean water and diluted 1:10 bleach or other appropriate disinfectant. This mixture should be changed at least daily. At a minimum, clean and disinfect rag wheels daily, however heat sterilization is preferable. The pumice/polish machine should be cleaned and disinfected at a minimum daily according to manufacturer directions.

Selected References and Additional Resources

- CDC. Guidelines for infection control in dental health-care settings – 2003. MMWR 2003; 52(No. RR-17).
- Miller CH, Palenik CJ. Laboratory and Radiographic Asepsis. In: Miller CH, Palenik DJ, eds. *Infection Control and Management of Hazardous Materials for the Dental Team*, 4th ed St. Louis: Mosby: 2009:207–215.
- Merchant,VA. Infection Control in the Dental Laboratory Environment. In Molinari JA, Harte JA, eds. *Cottone's Practical infection control in dentistry*, 3rd ed. Baltimore: Williams & Wilkins, 2009:246–260.
- Plummer K, Karpay R, Plamondon T, Mills S. Laboratory asepsis. OSAP Position Paper 1998:1–6.
- USAF Guidelines for Infection Control in Dentistry

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Infection Control Training & the Dental Lab (3/11)

Question: Are dental laboratory technicians required to attend newcomers and annual infection control training?

Answer: Yes, dental laboratory technicians are part of the dental clinic team and need to be aware of clinic infection control policies/practices. According to the USAF *Infection Control Guidelines for Dentistry*, training on occupational exposure to bloodborne pathogens and general infection control and prevention policies and procedures must be provided to dental health-care personnel (DHCP) upon initial employment; whenever new tasks or procedures affect the employee's occupational exposure; and at a minimum, annually. Furthermore, the guidelines define DHCP: "Dental health-care personnel refers to all paid and unpaid personnel in the dental health-care setting who might be occupationally exposed to

infectious materials, including body substances and contaminated supplies, equipment, environmental surfaces, water, or air. DHCP include dentists, dental hygienists, dental assistants, **dental laboratory technicians**, students and trainees, contractual personnel, and other persons not directly involved in patient care but potentially exposed to infectious agents (e.g., administrative, clerical, housekeeping, maintenance, or volunteer personnel)." Additionally, dental laboratory technicians also need to receive training specific to their assigned duties. There is a dental laboratory infection control PowerPoint presentation on the DECS Web site that may be helpful.

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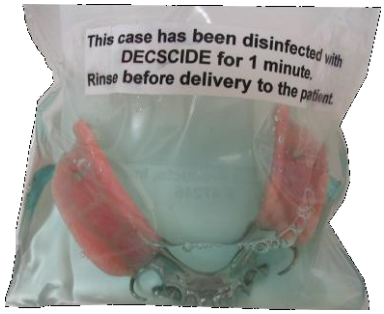
Returning Lab Items in Mouthwash (4/09)

Question: Why is it recommended to return prostheses/appliances in mouthwash? Wouldn't it be better to store the item in disinfectant before giving it to the patient?



Answer: Prostheses or appliances being returned to the provider should be cleaned and disinfected by the dental laboratory technician and the disinfection technique should be documented on the DD Form 2322. If the item is stored or returned in a disinfectant there is an increased risk for adverse tissue response—both to the patient and the office staff. Therefore, it is recommended to return the item in a deodorizing or cleaning solution such as mouthwash.

Selected References

- Miller CH, Palenik CJ. Laboratory and Radiographic Asepsis. In: Miller CH, Palenik DJ, eds. *Infection Control and Management of Hazardous Materials for the Dental Team*, 4th ed St. Louis: Mosby:2009:209.
- USAF Guidelines for Infection Control in Dentistry.

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Shade Selection in the Laboratory Using Extracted Teeth (4/04)

Question: Can extracted teeth be sent to the dental laboratory for shade comparisons?

Answer: Yes, extracted teeth can be sent to a dental laboratory for shade or size comparisons. The teeth should be cleaned and surface-disinfected with an EPA-registered hospital disinfectant with intermediate-level activity (i.e., tuberculocidal claim). They should be transported in a manner consistent with OSHA regulations—placed in a well-constructed container with a secure lid to prevent leakage during transport and labeled with the biohazard symbol.

References

1. CDC. Guidelines for infection control in dental health-care settings – 2003. MMWR 2003; 52(No. RR-17):1–66.
2. US Department of Labor, Occupational Safety and Health Administration. 29 CFR Part 1910.1030. Occupational exposure to bloodborne pathogens; needlesticks and other sharps injuries; final rule. Federal Register 2001;66:5317–5325. As amended from and includes 29 CFR Part 1910.1030. Occupational exposure to bloodborne pathogens; final rule. Federal Register 1991;56:64174–82. Available at www.osha.gov/SLTC/dentistry/index.html. Accessed April 2004.
3. US Department of Labor, Occupational Safety and Health Administration. OSHA instruction: enforcement procedures for the occupational exposure to bloodborne pathogens. Washington, DC: US Department of Labor, Occupational Safety and Health Administration, 2001; directive no. CPL 2-2.69.

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Preventing Contamination of Digital Radiography Sensors/Plates (3/04) **UPDATED** 4/08

Question: Is it better to barrier-protect digital radiography sensors/plates or disinfect them between each patient?

Answer: Digital radiography sensors or plates come into contact with mucous membranes and are considered semicritical devices. Ideally, therefore they should be cleaned and heat-sterilized or high-level disinfected between patients. At this time, however, there are no sensors or plates that can withstand heat sterilization or complete immersion in a high-level disinfectant. These devices should, at a minimum, be barrier protected by using an FDA-cleared barrier to reduce gross contamination during use. However, use of a barrier does not always protect from contamination. One study determined that a brand of commercially available plastic barriers used to protect dental digital radiography sensors failed at a substantial rate (44%). This rate dropped to 6% when latex finger cots were used in conjunction with the plastic barrier. To minimize the potential for patient cross-contamination, the Centers for Disease Control and Prevention recommends cleaning and disinfecting the sensor/plate with an EPA-registered intermediate-level (tuberculocidal) disinfectant after removing the barrier and before use on another patient. Because the sensors/plates and associated computer components vary by manufacturer and are expensive, manufacturers should be consulted regarding specific disinfection products and procedures.

References

- CDC. Guidelines for infection control in dental health-care settings – 2003. MMWR 2003; 52(No. RR-17):1–66.
- Hokett SD, Honey JR, Ruiz F, Baisden MK, Hoen MM. Assessing the effectiveness of direct digital radiography barrier sheaths and finger cots. J Am Dent Assoc 2000;131:463–467.

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